SEQUENCE LISTING

<110> Winter Sederoff, Heike
Huber, Steven C
Larabell, Carolyn A

<120> SYNTHETIC PEPTIDES THAT CAUSE F-ACTIN BUNDLING AND BLOCK ACTIN DEPOLYMERIZATION

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<140> 10/576,757
<141> 2006-04-20

<150> US 60/513,275
<151> 2003-10-20

<160> 29

<170> PatentIn version 3.5

<210> 1
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<212> PRT
<213> Artificial

<220>
<223> synthetic consensus active Zea mays Sucrose Synthase (SuSy) peptide

<400> 1

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<223> synthetic peptide derived from Zea mays SuSy1 protein 367-381

<400> 2

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<210> 3
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<210> 5
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<223> synthetic peptide derived from Drosophila melanogaster Actin 2 protein and Homo sapiens beta and gamma Actin proteins

<400> 5

Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
1 5 10 15

<210> 6
<211> 15
<212> PRT
<213> Artificial

<220>
<223> synthetic peptide derived from Drosophila melanogaster Actin 3, 5, and 6 proteins and Homo sapiens alpha Actin protein

<400> 6

Glu His Gly Ile Ile Thr Asn Trp Asp Asp Met Glu Lys Ile Trp
1 5 10 15

<210> 7
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<220>
<223> synthetic peptide derived from Drosophila melanogaster ARP1

<400> 7

Glu His Gly Ile Val Lys Asp Trp Asn Asp Met Glu Arg Ile Trp
1 5 10 15

<210> 8
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<400> 8

Glu Asn Gly Val Val Arg Asn Trp Asp Asp Met Cys His Val Trp
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<223> synthetic SS1 inactive control peptide

<220>
<221> peptide
<222> (1)..(17)

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Gly Asp Arg Val Leu Ser Arg Leu His Ser Val Arg Glu Arg Ile Gly
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Lys

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<223> SS2 active peptide based on Zea mays SuSy 377-392

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Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu
1 5 10 15

Lys Lys

<210> 11
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<220>
<223> SS11 inactive synthetic peptide

<400> 11

Ile Leu Arg Val Pro Phe Arg Thr Glu Asn Gly Ile Val Arg Lys
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<210> 12
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<223> SS12 active synthetic peptide

<400> 12

Gly Ile Val Arg Lys Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu
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<211> 16
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<220>
<223> SS15 less active synthetic peptide

<220>
<221> SITE
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<223> replaced Tryptophan residue with Alanines

<220>
<221> SITE
<222> (13)..(13)
<223> replaced Tryptophan residue with Alanine

<400> 13

Gly Ile Val Arg Lys Ala Ile Ser Arg Phe Glu Val Ala Pro Tyr Leu
1 5 10 15

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<223> SS16 less active synthetic peptide corresponding to short middle portion of SS12 synthetic peptide

<400> 14

Ser Arg Phe Glu Val Trp Pro Tyr Leu
1 5

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<220>
<223> NR11 inactive synthetic peptide

<400> 15

Gly Pro Thr Leu Lys Arg Thr Ala Ser Thr Ala Phe Met Asn Thr Thr
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Ser Lys Lys

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<220>
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Gly Arg Met Arg Arg Ile Ala Thr Val Glu Met Met Lys Lys
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<223> Small block of SS12 sequence required for less active synthetic peptide

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Trp Ile Ser Arg Phe Glu Val Trp
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Arg Arg Ile Ser Ser Val Glu Asp Lys Lys
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<223> synthetic peptide of Drosophila melanogaster Actin protein consensus sequence

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Glu His Gly Ile Val Thr Asn Trp Asp Asp Met Glu Lys Ile Trp His
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His Thr Phe Tyr
20

<210> 20
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<220>
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<400> 21

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<210> 22
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<213> Artificial

<220>
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Ser Arg Phe Glu Val Trp
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<210> 23
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<220>
<223> SS synthetic peptide B

<400> 23

Trp Ile Ser Arg Phe Glu Val Trp Pro Tyr Leu Lys Lys
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<220>
<223>  SS synthetic peptide C

<400>  24

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Tyr Leu Lys Lys
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<210>  25
<211>  16
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<222>  (2)..(2)
<223>  X=His or Asn

<220>
<221>  VARIANT
<222>  (5)..(5)
<223>  X= Val or Leu

<220>
<221>  VARIANT
<222>  (6)..(6)
<223>  X= Arg, Tyr or Lys

<220>
<221>  VARIANT
<222>  (7)..(7)
<223>  X= Lys, Asn, Asp

<220>
<221>  VARIANT
<222>  (9)..(9)
<223>  X= Ile or Asp

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<222>  (10)..(10)
<223>  X= Ser or Asp

<220>
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<222>  (11)..(11)
<223>  X= Arg or Met

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<221>  VARIANT
<222>  (12)..(12)
<223>  X= Glu, Phe, Cys, or Lys

<220>
<221>  VARIANT
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<223>  X= Glu, Asp, Lys, Arg, or His

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<223>  X= Ile, Leu, or Val

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<221>  VARIANT
<222>  (16)..(16)
<223>  X= Phe-Tyr-Leu or His-His-Thr-Phe

<220>
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<223>  X= Phe-Tyr-Leu or His-His-Thr-Phe-Tyr

<400>  25

Glu Xaa Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Trp Xaa
1               5                   10                  15


<210>  26
<211>  15
<212>  PRT
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<220>
<223>  Motif for a synthetic peptide which causes actin bundling and
       inhbits actin depolymerization


<220>
<221>  VARIANT
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<223>  X = any amino acid

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<221>  VARIANT
<222>  (4)..(4)
<223>  X = Ile or Val

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<223>  X = any amino acid

<220>
<221>  VARIANT
<222>  (9)..(14)
<223>  X = any amino acid

<400> 26

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1 5 10 15

<210> 27
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<212> PRT
<213> Artificial sequence

<220>
<223> Motif for a synthetic peptide that causes actin bundling and inhibits actin depolymerization

<220>
<221> VARIANT
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<223> X= Lys, Arg, or His

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<222> (5)..(5)
<223> X= Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met

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<223> X= Lys, Arg, or His

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<221> VARIANT
<222> (7)..(7)
<223> X= any amino acid

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<221> VARIANT
<222> (9)..(13)
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<220>
<221> VARIANT
<222> (14)..(14)
<223> X= Ala, Val, Leu, Ile, Phe, Trp, Pro, or Met

<400> 27

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1 5 10 15

<210> 28
<211> 16
<212> PRT
<213> Artificial Sequence

<220>
<223> Formula (I) for active synthetic peptides

<220>

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<223> X = Ile, Val, or Leu

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<223> X = Arg, Lys, Asn, or Thr

<220>
<221> VARIANT
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<223> X = Arg, Lys, Asn, or Asp

<220>
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<222> (7)..(7)
<223> X = Ile, Asp, Asn, or Glu

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<222> (8)..(8)
<223> X = Ser, or Asp

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<221> VARIANT
<222> (9)..(9)
<223> X = Arg, Met, or Ala

<220>
<221> VARIANT
<222> (10)..(10)
<223> X = Phe, or Glu

<220>
<221> VARIANT
<222> (11)..(11)
<223> X =Asp, Glu, Lys, Arg, or His

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<222> (12)..(12)
<223> X =Val, or Ile

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<222> (14)..(14)
<223> X =Pro, or His

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<221> VARIANT
<222> (15)..(15)
<223> X =Tyr, or His

<220>
<221> VARIANT
<222> (16)..(16)
<223> X =Leu, or Thr

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Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Trp Xaa Xaa Xaa
1 5 10 15

<210> 29
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<212> PRT
<213> Artificial Sequence

<220>
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<222> (4)..(4)
<223> X = Lys, Arg, or His

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<223> X = any amino acid

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<221> VARIANT
<222> (7)..(11)
<223> X = any amino acid

<220>
<221> VARIANT
<222> (12)..(12)
<223> X = Lys, Arg, or His

<400> 29

Gly Ile Xaa Xaa Xaa Trp Xaa Xaa Xaa Xaa Xaa Xaa Trp
1 5 10